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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/126,622	07/30/1998	CORMAC HERLEY	10970294-1	9131

7590 07/16/2002

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EXAMINER

VU, NGOC YEN T

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 07/16/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

12

Office Action Summary

Application No.

09/126,622

Applicant(s)

Cormac HERLEY

Examiner

Ngoc-Yen VU

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on May 6, 2002

2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 10-32 is/are pending in the application

4a) Of the above, claim(s) _____ is/are withdrawn from consideration

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 10-32 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☒ The proposed drawing correction filed on May 6, 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) ☐ Other: _____

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Response to Amendment

1. The amendments, filed on 05/06/2002, have been entered and made of record.

Response to Arguments

2. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 15-17, 25, 27 and 32 are objected to because of the following informalities:

Claims 15-17: the dependency of claims 15-17 should be changed to depend on claim 14, rather than claim 15 as claimed.

Claim 17: line 1, change "each compressed image" to --each ***first*** compressed image--.

Claim 25: line 1, change "each compressed image" to --each ***first*** compressed image--.

Claim 27: line 1, change "processor" to --processing--.

Claim 32: line 1, change "each compressed image" to --each ***first*** compressed image--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 14 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "the image storage device" in line 1. There is no antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "the image storage device" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 10-11 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US #5,838,834) in view of Ligtenberg (US #5,333,212).

Claims 18-19 will be discussed first. Regarding claims **18-19**, in figures 4-10, Saito '834 teaches a system of processing images in a digital camera comprising means for inputting a raw image (col. 6 lines 38-65); means for generating from the raw image, including employing a first quantizing step, a first compressed image data set suitable for reproducing the image at a first quality and means for generating from the raw image, including employing a second quantizing step independent of the first quantizing step, a second compressed image data set (col. 6 line 37 - col. 9 line 38).

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Claims 18-19 differs from Saito in that the claim further requires that the combination between the first and second compressed image data produces the image at a second, higher quality level. Although Saito does not explicitly teach that the image data stored in a compressed data memory 15 is reproduced at a higher quality level, Saito does teach zigzag scanning of quantization coefficients which are arranged from the lower frequency components to the higher frequency components (col. 6 line 37 - col. 8 line 56) in a progressive coding method. Saito further teaches in column 1, lines 51+, that in progressive coding reproduced images having better resolution is reproduced sequentially. In the same field of endeavor, Ligtenberg '212 teaches a JPEG image compression technique allowing the quantizers in a zigzag pattern to be determined independently according to selected portions of the image (col. 4 line 15 - col. 6 line 68; col. 9 line 32 - col. 11 line 17). Ligtenberg further teaches that the combination of the different selected portions of the image form a higher resolution image (col. 7 line 1 - col. 8 line 37). In light of the teaching from Ligtenberg, it would have been obvious to one of ordinary skill in the art to modify the progressive coding taught in Saito by combining the first and second compressed image data set images in order to provide a higher quality level without degradation caused by quantization errors. It is noted that the progressive coding taught in Saito and Ligtenberg, DCT quantization and Huffman coding, conforms with the JPEG compression and decompression standard.

Regarding claims 10-11, they are method claims corresponding to the apparatus claims 18-19. Therefore, claims 10-11 are analyzed and rejected as previously discussed with respect to claims 18-19.

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7. Claims 12-17 and 20-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito '834) in view of Ligtenberg '212 and further in view of Yamagata (US #6,261,106).

Claims 20-25 will be discussed first. Claims 20-22 and 25 differ from Saito and Ligtenberg in that the claims further requires an image storage device for storing the first compressed image data set in a primary storage area and the second compressed image data set in a secondary storage area wherein if insufficient space is available in the image storage device to store the first compressed image data set, the second compressed image data sets will be released to make space in the image storage device. The limitations are well known in the art as shown in Yamagata. In the same field of endeavor, Yamagata '106 teaches a digital camera having image data selectively compressed and stored in a recording medium (IC card M). Yamagata further teaches that compressed image data can be selectively deleted to increase total capacity of the memory card (col. 1 lines 35+). In light of the teaching from Yamagata, it would have been obvious to one of ordinary skill in the art to modify the image processing apparatus taught in Saito and Ligtenberg by allowing compressed image data to be selectively released so as increasing the total remaining capacity of the compressed data memory.

As to claims 23-24, Yamagata teaches a frame forward/backward buttons 15 (Fig. 1) allowing image files to be selected for further compression or deletion.

As to claims 12-17, they are method claims corresponding to the apparatus claims 20-25. Therefore, claims 12-17 are analyzed and rejected as previously discussed with respect to claims 20-25.

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Regarding claims **26-29 and 32**, the subject matter in claims 26-29 and 32 can be found in claims 18-22 and 25. See the Examiner's comments regarding claims 18-22 and 25.

As to claims 30-31, the subject matter in claims 30-31 can be found in claims 23-24. See the Examiner's comments regarding claims 30-31.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. **Any response to this office action should be mailed to:**

Box AF

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

(for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA.,

Sixth Floor (Receptionist).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ngoc-Yen Vu** whose telephone number is (703) 305-4946. The examiner can normally be reached on Mon - Fri from 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy Garber**, can be reached on (703) 305-4929.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-0377.

NYV
07/09/2002


NGOC-YEN VU
PRIMARY EXAMINER
Group Art Unit 2612